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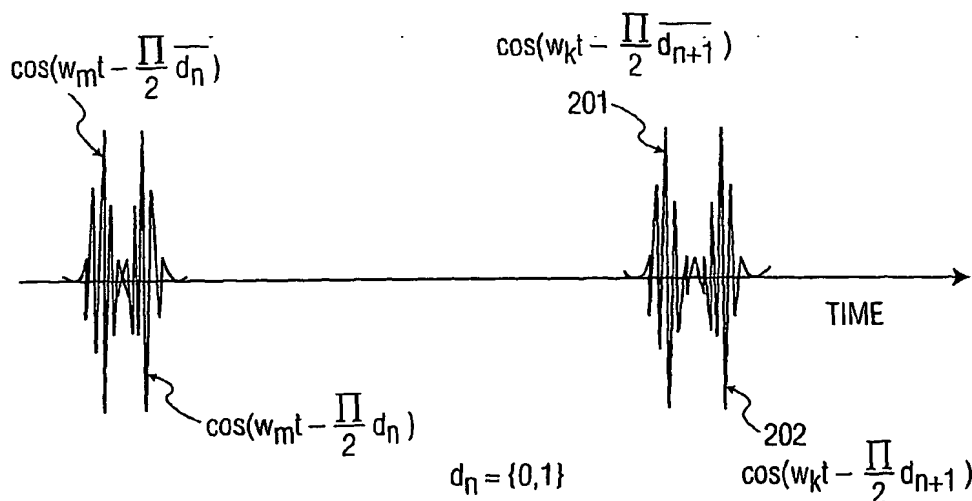
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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,

[Continued on next page]

(54) Title: DIFFERENTIAL PHASE MODULATED MULTI-BAND ULTRA-WIDEBAND COMMUNICATION SYSTEM



(57) Abstract: A method for conveying, a receiver for receiving and a signal that contains a differential phase modulated multi-band high-speed data stream are provided. A preferred embodiment is directed to a multi-band UWB signal where each band spans about 500MHz to 1 GHz. Within each such band, a flexible modulation scheme of the present invention is employed that comprises two-pulse duplets having a difference set to $\pi/2$ or 90° . This modulation scheme allows adaptation of the data rate to the sub-band channel conditions. Within each band, time, amplitude and phase modulations are employed. In addition, a pseudorandom frequency sequence is employed to provide sufficient reduction of multi-user interference.



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